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ENCOURAGING PROVIDER BUY IN: IMMEDIATE POSTPARTUM LARC

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SPEAKER DISCLOSURES

Jen Robinson MS, WHNP-BC, CNM, RN is a Nexplanon trainer for Organon

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LEARNING OBJECTIVES

1. Describe the efficacy and safety of LARC in the immediate postpartum period

2. Review the role of clinician champions and interprofessional implementation teams

3. Describe how to address the top concerns PA providers have about IPP LARC: IUD expulsions, post-expulsion contraception concerns, return rate for postpartum visits

4. Discuss processes in which teams roll out IPP LARC initiatives without 100% provider buy in

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CHALLENGES WITH INITIATING POSTPARTUM CONTRACEPTION

- As many as 40% of people do not return for the 6 week postpartum visit
  - Even lower in under-resourced areas, further contributing to health disparities
- Non-breastfeeding/chestfeeding/lactating people can ovulate as early as 25 days postpartum
  - 40% will ovulate by 6 weeks postpartum
- 57% of postpartum people are sexually active by 6 weeks postpartum

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ACOG, 2018
Bryant et al, 2006
Connolly et al, 2005
Gray et al, 1987

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Long-Acting Reversible Contraception: Implants and Intrauterine Devices

Practice Bulletin | Number 186 | November 2017

- **Long acting reversible contraception = LARC**

- **Advantages of LARC include:**
  1. **Do not require ongoing effort for long-term and effective use**
  2. **Rapid return to fertility after removal of the device**

- **Disadvantages:**
  1. **Must be placed and removed by a trained clinician**
  2. **Impacts patient autonomy**

WHAT IS IMMEDIATE POSTPARTUM LARC?

LARC methods available in the hospital after a delivery before discharge

- ACOG, CDC, WHO, Society of Family Planning, and Cochrane Reviews all support immediate postpartum LARC as a safe and effective option
- Can be an ideal time to provide LARC methods for many people who want them

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ACOG, 2017; Aiken et al, 2015; Curtis et al, 2016; Dahlke et al, 2011; Lopez et al, 2015; Sothornwit et al, 2017; WHO 2015

DEFINITIONS: TIMING OF LARC PLACEMENT

1. **Immediate postplacental – placement while still in the delivery room and, when possible, within 10 minutes of placental delivery**

2. **Immediate postpartum – placement during hospital admission for delivery**

3. **Postpartum – placement within 6 weeks of delivery**

4. **Interval placement – placement at any time during the menstrual cycle and not in relationship to the end of a pregnancy (or >6 weeks after delivery)**

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Aiken et al, 2015
Dahlke et al, 2011
Whitaker et al, 2017

Immediate versus delayed postpartum insertion of contraceptive implant and IUD for contraception

Jen Sothornwit, Srinaree Kaewrudee, Pisake Lumbiganon, Porjai Pattanittum, Sarah H Averbach
Authors' declarations of interest

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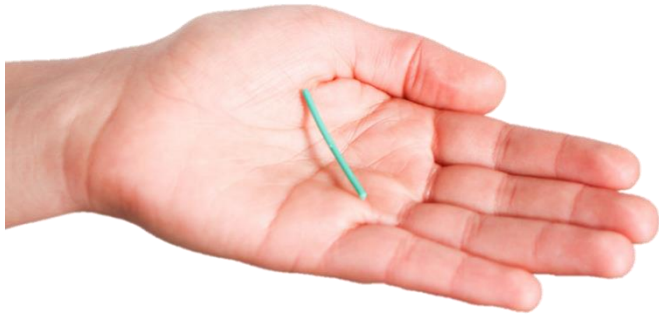
Cochrane Library

People were **48% more likely to have contraceptive implants inserted IPP** vs at 4-6 week PP visit.



People were **27% more likely to have IUDs inserted IPP** vs at 4-6 week PP visit

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IPP LARC CAN SERVE AS A BRIDGE METHOD TO TUBAL LIGATION

- At least 1/3 of people who want a postpartum tubal ligation will **not** have it done
- 47% of people discharged without having a desired postpartum tubal ligation will be pregnant within 1 year
- Systems issues preventing tubal ligation at the time of delivery:
  - Lack of an operating room, physician availability, incomplete consent forms
  - Insurance Issues

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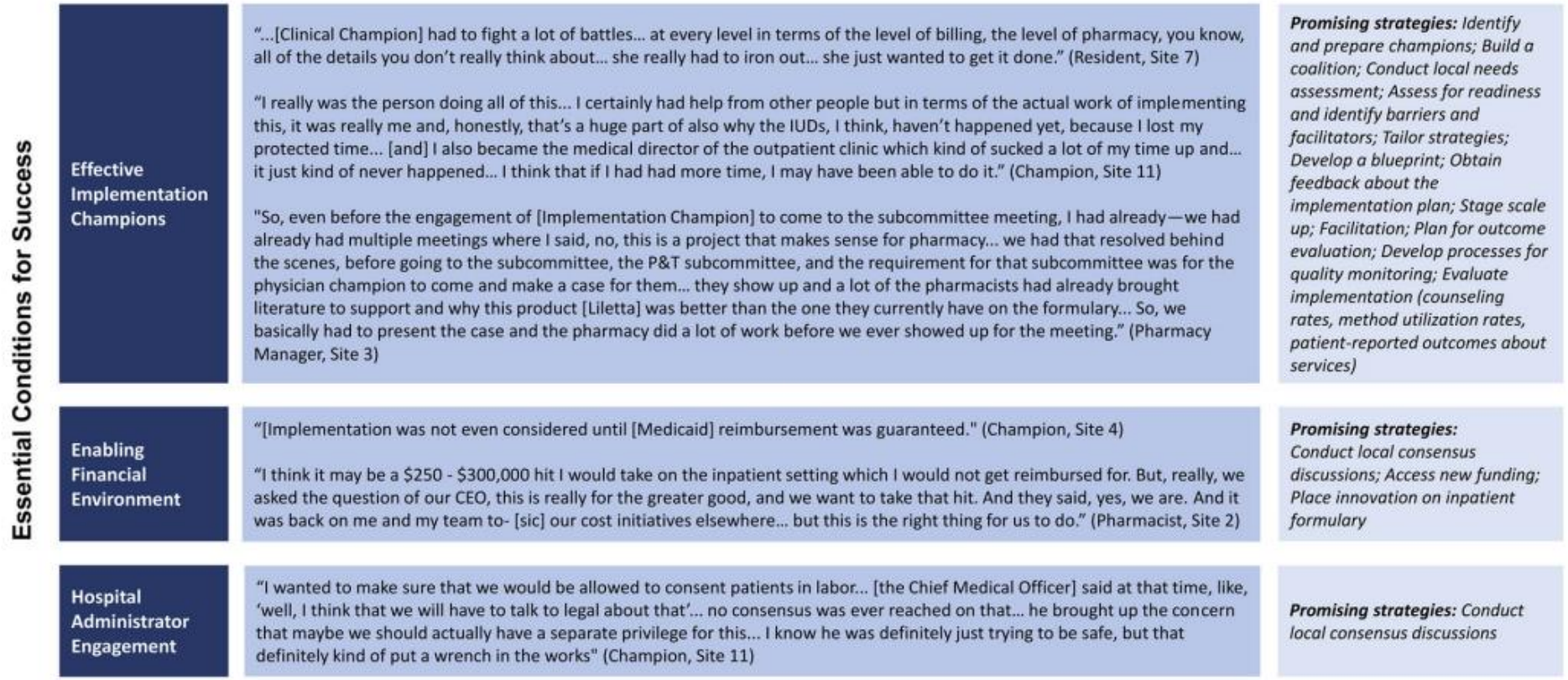
Thurman et al, 2010

RESEARCH Open Access

Implementing immediate postpartum contraception: a comparative case study at 11 hospitals

Michelle H. Moniz[1,2*], Kirsten Bonawitz[1], Marisa K. Wetmore[1], Vanessa K. Dalton[1,2], Laura J. Damschroder[3], Jane H. Forman[3], Alex F. Peahl[1] and Michele Heisler[2,4]



ACOG Moniz et al, 2021

EFFECTIVE IMPLEMENTATION CHAMPIONS

Dedicated administrative support	• Protected paid admin time • Project manager
Patient and community engagement	• Reproductive justice partnerships
Interprofessional coalition	• Pharmacy, nursing, admin, billing • Identify and mitigate barriers outside clinician champion's reach • Dissipate resistance from colleagues

njappleseed

newvoicesrj

Who will need to be an active part of the IPP LARC initiative team in your hospital? Check all that apply.	☐ Administration ☐ MCO Liaison ☐ Pharmacy ☐ Billing ☐ Nursing	☐ Lactation consultant ☐ OB provider ☐ All of the above ☐ Other *(specify)*

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Moniz et al, 2021
Loper et al,2021

STRATEGIES TO PROMOTE POSITIVE ATTITUDES + ADEQUATE KNOWLEDGE ABOUT CLINICAL PRACTICE

innovating-education

- Provide didactic and hands on simulation training for clinicians and staff **(ongoing!)**
- Educational materials
  - develop and distribute
- Clinical supervision
  - consider locums
- Organize clinician and staff team meetings
- Audit and feedback performance
  - counseling rates, contraceptive utilization, patient experience of care

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Moniz et al, 2021

PROVIDER CONCERN #1: IUD EXPULSION RATES

- Expulsion rates for immediate postpartum IUD insertions vary by study, device type, route of delivery
- Immediate postplacental: ~10%
- 10 minutes to 4 weeks: may be as high as 10-27%
- Interval (6 weeks PP and beyond):
  - 2-10% copper IUD
  - 2-6% hormonal IUD

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Levi et al, 2015
Lopez et al, 2015
Whitaker et al, 2014

IPP LARC SATISFACTION & CONTINUATION RATES

- Many people like and continue using their immediate postpartum LARC method
  - 74% with IPP IUD had their IUD in place at one year
  - 84% with IPP implant had their implant in place at one year
- Continuation rates for IUDs and implants at 1 year are similar with interval placement

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Cohen et al, 2016
Crockett et al, 2017
Woo et al, 2015

PROVIDER CONCERN #2: IF IPP IUD EXPELS, PATIENTS MIGHT NOT WANT ANOTHER IUD

- Per Society of Family Planning Guidelines & 2015 Woo et al. Contraception article :

  "Most women who experienced expulsion had a second IUD placed, and use at 3 and 6 months was similar across groups"

- Person centered contraceptive counseling improves contraceptive knowledge, patient experience, and contraceptive satisfaction and continuation

- Method switching is normal, common

Stock image

Whitaker et al, 2017; Woo et al. 2015; Dehlendorf et al, 2016; Dehlendorf et al, 2014; Moskowitz and Jennings, 1996; Gavin et al, 2017

PA HOSPITAL CASE STUDY: IPP IUDS IN 2022 EXPULSION STATS

- Context: A hospital in PA with an average of 160 deliveries a month that has been placing IPP LARC since prior to 2020.

- IUDs placed: 189

- Expulsions within 8 weeks of placement: 18
  - Expulsion rate: 10%

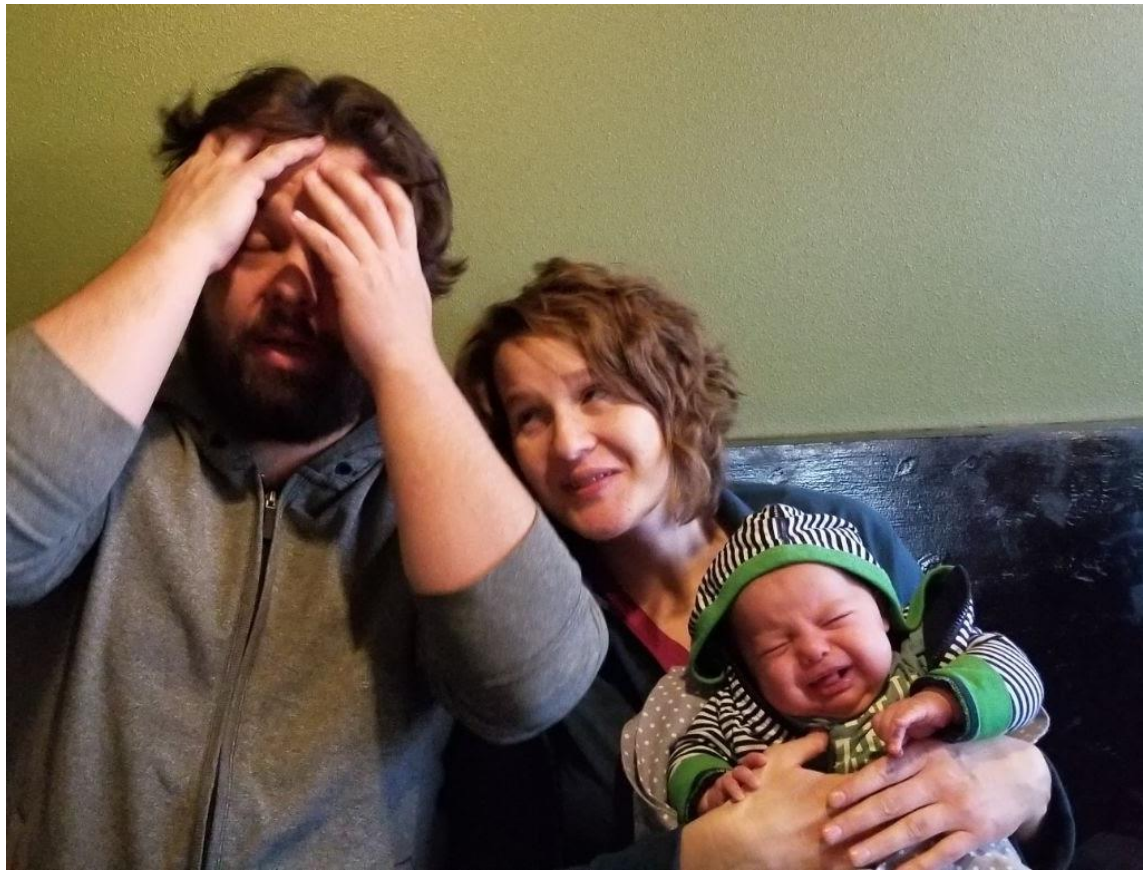
- Patients that requested and received another IUD after experiencing an expulsion: 10 patients: 56%

- Contraceptive options chosen by other 8 people: 3 depo, 2 ring, 1 OCP, 1 Nexplanon, 1 hysterectomy

PROVIDER CONCERN #3: PATIENTS WILL NOT RETURN FOR POSTPARTUM VISITS IF THEY HAVE IPP LARCS

"Given the multiple barriers that exist for IUD insertion in routine practice,
a patient population with low return rates for the postpartum visit is more likely to benefit from the option of postplacental IUD insertion."

-Society of Family Planning Guidelines: Postplacental insertion of IUDs, 2017



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Whitaker et al, 2017

PA HOSPITAL CASE STUDY: IPP IUDS IN 2022
PP APPOINTMENT STATS

- Context: A hospital in PA with an average of 160 deliveries a month that has been placing IPP LARC since prior to 2020.

- IUDs placed: 189

- Expulsions within 8 weeks of placement: 18
  - Expulsion rate: 10%

- Patients that received an immediate PP IUD and attended their PP appt: **78%**

USING AN IUD TO "MOTIVATE" SOMEONE TO RETURN FOR A 6 WEEK POSTPARTUM VISIT DOESN'T WORK

- “Only… 60% [of those who requested an IUD and whose records were available] actually obtained an IUD. Barriers… included… failure to return… and early repeat pregnancy”.

Ogburn et al 2005

Processes in which teams roll out IPP LARC initiatives without 100% provider buy in

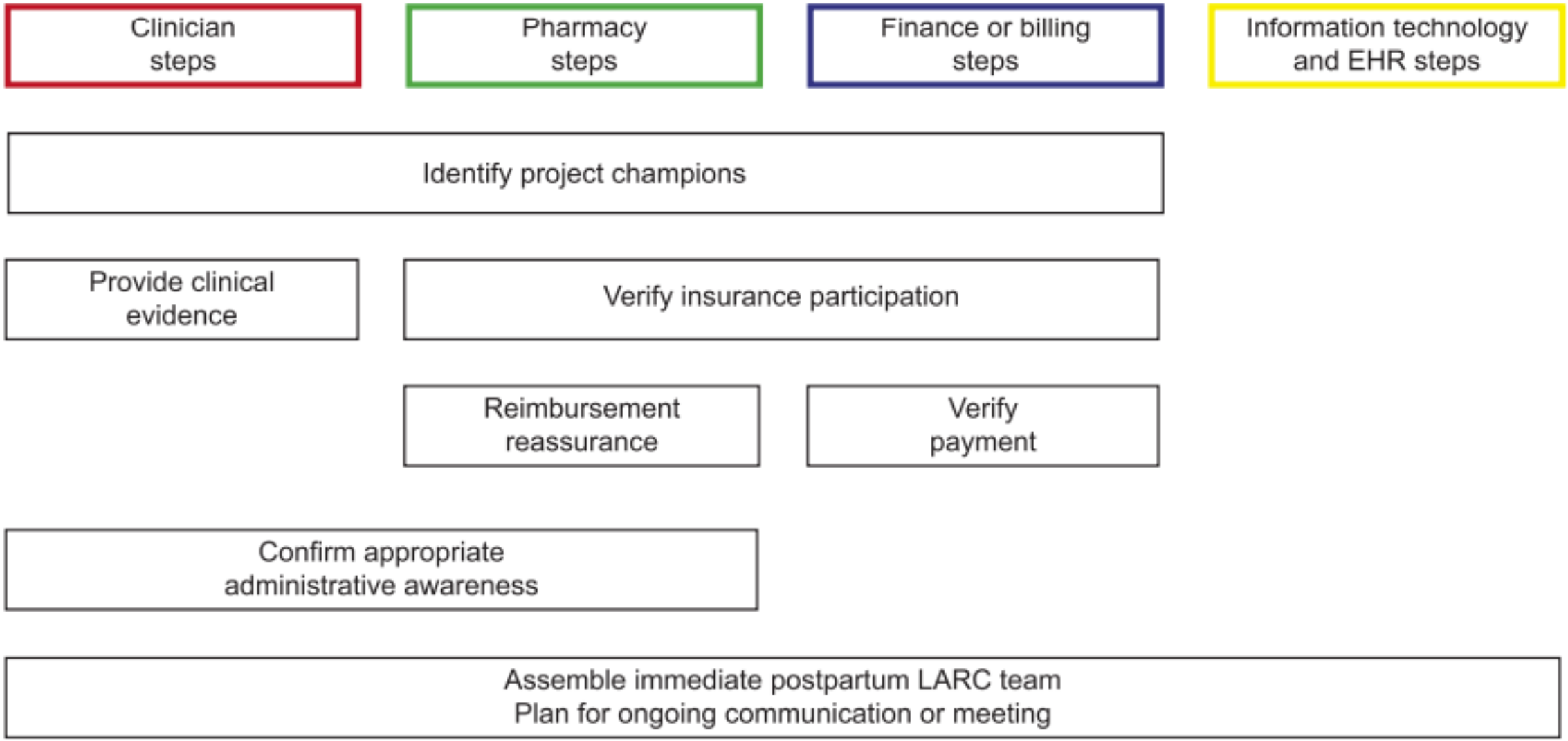
Landscape context

- Hospitalist/locums issues
- Provider turnover
- Privileging/training for new procedures
- Partnering with nurse midwives/advanced practice clinicians

Scale-up approaches

1. Exploration
2. Installation
3. Initial implementation
   - Initially launch one LARC device type and/or
   - Pilot services with a small group of providers
4. Full implementation

Exploration



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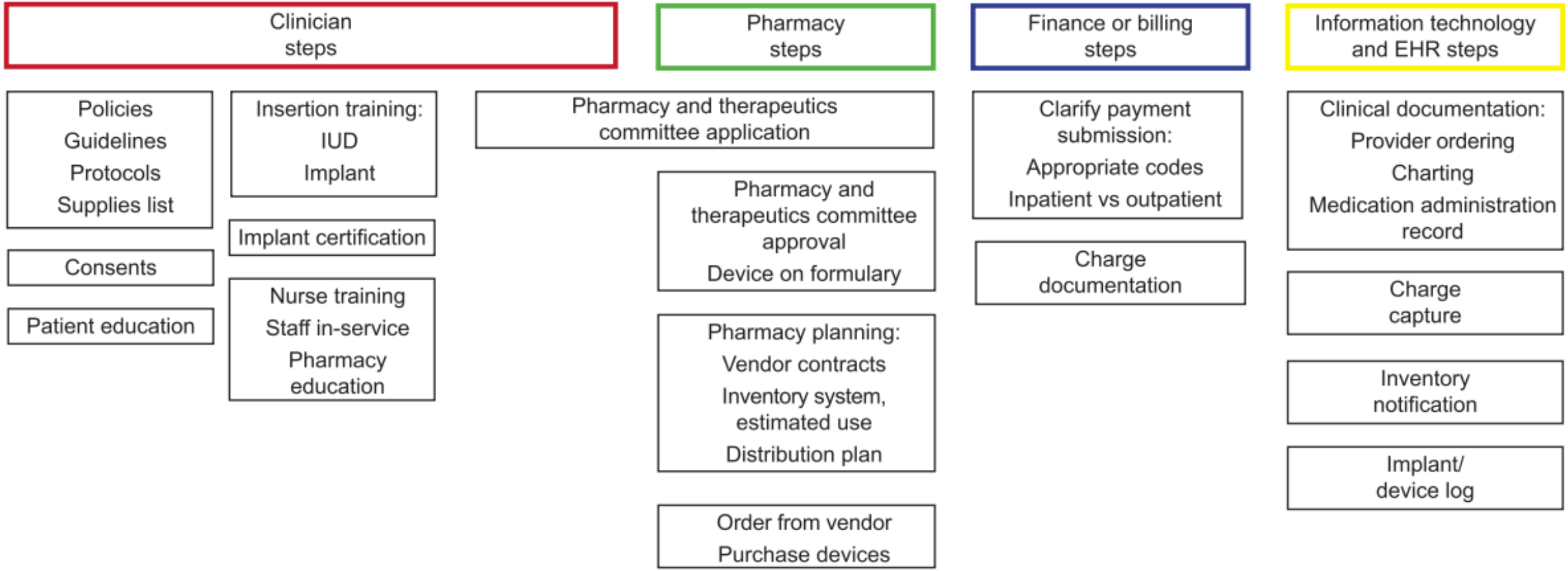
Hofler et al, 2017

Installation



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Hofler et al, 2017

CHAMPIONS ARE HYPE PEOPLE THROUGHOUT ALL IMPLEMENTATION STEPS!

Stock image

- "You need spokespeople to be promoting these projects, and you need a point person that's going to be on the floors whether day or night, talking it up. Somebody that has influence. Somebody that people respect and like and know."

  –Clinician champion in TX

- "Initially, the nurses had concerns about expulsion rates and [asked] "Is this even going to be successful?" If you can get the education out there before you implement it, that kind of helps allay those fears and they're a lot more supportive of it once it rolls out."

  –Nurse at IPP implementation hospital in TX

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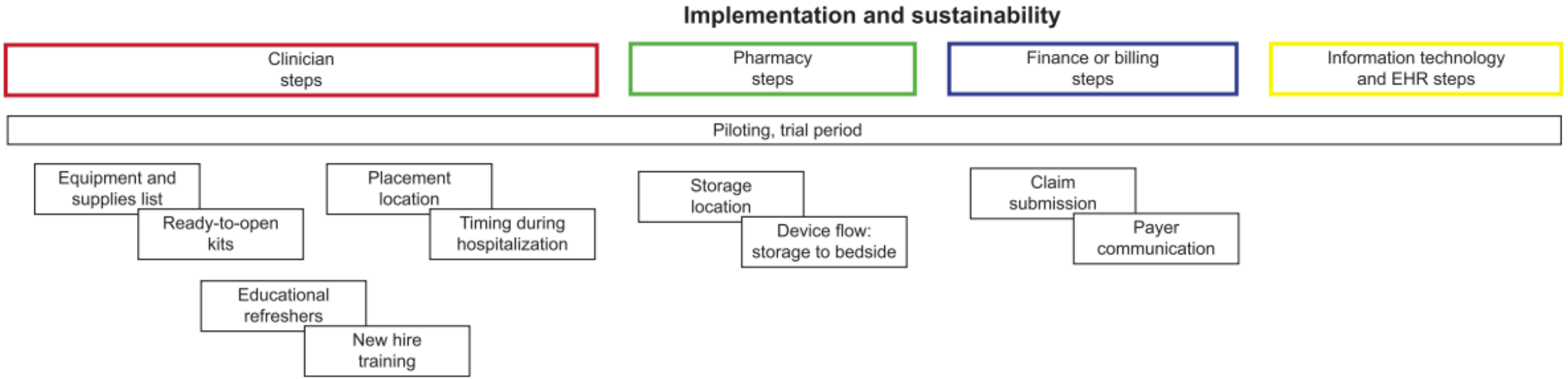
Remington et al, 2022



Hofler et al, 2017

FIGURE 3

Stage-based checklist for immediate postpartum long-acting reversible contraception implementation

Implementation Stage	IPP LARC Outcomes in this Stage

Exploration
 	
Key activities
• Identify the need for change
• Learn about possible interventions that may provide solutions
• Learn about what it takes to implement IPP LARC effectively
• Develop a team to support the work as it progresses through the stages
• Grow stakeholders and champions,
• Assess and create readiness for change
• Develop communication processes to support the work and decide to proceed (or not).
	☐ Demonstrated need for IPP LARC
	☐ Provide clinical evidence
	☐ Demonstrated fit and feasibility of IPP LARC through IPP LARC Readiness Assessment
	☐ Demonstrated readiness and buy-in from:
	  ☐ Providers
	  ☐ Leadership
	  ☐ Pharmacy
	  ☐ Billing
	  ☐ Finance
	  ☐ Stakeholders
	  ☐ Champions
	☐ Implementation team formed
	  ☐ Implementation team charter developed clarifying the team's way of work
	  ☐ Communication protocol developed to support bi-directional communication between the team, stakeholders and leadership
	☐ Identify necessary infrastructure elements to support IPP LARC practice and related organizational and systems change

Harper. Stage-based implementation of IPP LARC. Am J Obstet Gynecol 2020.

(continued)

Installation

Key activities

- Secure and develop the support needed to put IPP LARC into place as intended
- Develop feedback loops between the practice and leadership levels in order to streamline communication
- Gather feedback on how IPP LARC will be implemented

- ☐ Assess team competencies to support IPP LARC access
- ☐ Develop implementation team competencies to support IPP LARC access
- ☐ Assure financial resources (e.g. funding, FTE) to support IPP LARC access
- ☐ Institute practice-policy feedback loops between practitioners, implementation team and leadership
  - ☐ Providers have access to IPP LARC data and are equipped to use them for improvement
- ☐ Majority of providers trained in IPP LARC (Nexplanon, IUDs) placement, contraceptive choice counseling
  - ☐ Training plan developed to address placement and contraceptive choice counseling
  - ☐ Implant certification obtained
- ☐ Infrastructure created to support provider coaching and ongoing improvement
- ☐ Policies have been created/modified to enable acquisition and availability of and reimbursement for IPP LARC placement
- ☐ Process for orienting patients to IPP LARC and obtaining consent in place
  - ☐ Consent forms created or modified for use
  - ☐ Patient education materials created or modified for use
- ☐ Pharmacy processes and policies are in place
  - ☐ Address formulary revisions
  - ☐ Determine pharmacy costs (device, local anesthetic, stocking charge)
  - ☐ Determine inventory levels, stocking locations and order system revisions
  - ☐ Purchase devices
  - ☐ Storage location identified
  - ☐ Develop storage-to-bedside device flow
- ☐ Billing and collections processes and policies are in place
  - ☐ Billing processes for the device, facility and provider
  - ☐ Initiate contract amendments with payers
  - ☐ Customize the claims processes
  - ☐ Test billing revisions to assure reimbursement
  - ☐ Update documentation as needed
- ☐ IT and HER process and policies are in place
  - ☐ Clinical documentation established for provider ordering and charting
  - ☐ Charge capture
  - ☐ Inventory notification
  - ☐ Implant/device log
- ☐ Cross-departmental collaboration on processes and policies are in place
  - ☐ Establish guidelines and work flows for L&D, obstetric operating rooms, and postpartum floor

Harper et al, 2020

FINANCIAL BARRIERS AND SOLUTIONS

- PA Medicaid
  - Reimburses for IPP LARC above and beyond global fee
- Private insurance
  - “LARC included in global fee”
- Self pay - Hospital based plan coverage
  - Some cover IPP LARC if deliveries happen in their system

Planterina

EQUITY AND ACCESS WHEN PATIENTS DEEMED "INELIGIBLE PER INTERNAL CRITERIA"

- Process flow for privately insured and self pay patients
- **Bridge with another method and offer insertion 2-6 weeks postpartum**
- Privately insured:
  - Implant anytime postpartum
  - IUD and implant reimbursed above any outpatient office or global fee
- Self pay: what options exist for uninsured patients to access contraception postpartum?
  - Title X
  - FQHCs
  - Hospital/clinic-based grants?

Maternal & Family Health Services

ACCESS MATTERS
TRANSFORMING ACCESS TO SEXUAL & REPRODUCTIVE HEALTH

Family Health Council of Central Pennsylvania, Inc.

adagio health
50 Years
You're welcome here

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IPP LARC STANDARD OPERATING PROCEDURE

- Scope
- Procedures
  - Counseling
  - Nurse
  - Provider
- Technique
  - Vaginal birth
  - C section
- IUD string not seen at post insertion care visit

STANDARD OPERATING PROCEDURE- GUIDELINE

IMMEDIATE POSTPARTUM IUD INSERTION

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TAKEAWAY POINTS

1. ACOG, CDC, WHO, Society of Family Planning, and Cochrane Reviews all support immediate postpartum LARC as a safe and effective option

2. Clinician champions and interprofessional champion teams are essential in implementing IPP LARC programs

3. Consider scale-up approaches to initial implementation of IPP LARC: Initially launch one LARC device type and/or pilot services with a small group of providers

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CITATIONS

- Access to postpartum sterilization. Committee Opinion No. 530. American College of Obstetricians and Gynecologists. Obstet Gynecol 2012;120:212-5. Available at: http://journals.lww.com/greenjournal/Citation/2012/07000/Committee_Opinion_No__530___Access_to_Postpartum.43.aspx. Retrieved September 26, 2017.
- Immediate postpartum long-acting reversible contraception. Committee Opinion No. 670. American College of Obstetricians and Gynecologists. Obstet Gynecol 2016;128:e32-7. Available at: http://journals.lww.com/greenjournal/pages/results.aspx?txtkeywords=10.1097%2fAOG.0000000000001587. Retrieved September 13, 2017.
- Long-acting reversible contraception: implants and intrauterine devices. Practice Bulletin No. 186. American College of Obstetricians and Gynecologists. Obstet Gynecol 2017;130:e251-69. Available at: http://journals.lww.com/greenjournal/Fulltext/2017/11000/Practice_Bulletin_No__186___Long_Acting_Reversible.50.aspx. Retrieved October 25, 2017.
- Optimizing postpartum care. Committee Opinion No. 736. American College of Obstetricians and Gynecologists. Obstet Gynecol 2018;131:e949-51. Available at: https://journals.lww.com/greenjournal/Fulltext/2018/05000/ACOG_Committee_Opinion_No__736_Summary__.37.aspx. Retrieved March 13, 2019.
- Aiken AR, Aiken CE, Trussell J, Guthrie KA. Immediate postpartum provision of highly effective reversible contraception. BJOG 2015;122:1050-1. Available at: http://onlinelibrary.wiley.com/doi/10.1111/1471-0528.13306/abstract. Retrieved September 13, 2017.
- Bryant AS, Haas JS, McElrath TF, McCormick MC. Predictors of compliance with the postpartum visit among women living in healthy start project areas. Matern Child Health J 2006;10:511-6. Available at: https://link.springer.com/article/10.1007%2Fs10995-006-0128-5. Retrieved September 13, 2017.

ACOG

CITATIONS

- Cohen R, Sheeder J, Arango N, Teal SB, Tocce K. Twelve-month contraceptive continuation and repeat pregnancy among young mothers choosing postdelivery contraceptive implants or postplacental intrauterine devices. Contraception 2016;93:178-83. Available at: http://www.contraceptionjournal.org/article/S0010-7824(15)30030-5/fulltext. Retrieved September 13, 2017.
- Connolly A, Thorp J, Pahel L. Effects of pregnancy and childbirth on postpartum sexual function: a longitudinal prospective study. Int Urogynecol J Pelvic Floor Dysfunct 2005;16:263-7. Available at: https://link.springer.com/article/10.1007/s00192-005-1293-6. Retrieved September 13, 2017.
- Crockett AH, Pickell LB, Heberlein EC, Billings DL, Mills B. Six- and twelve-month documented removal rates among women electing postpartum inpatient compared to delayed or interval contraceptive implant insertions after Medicaid payment reform. Contraception 2017;95:71-6. Available at: http://www.contraceptionjournal.org/article/S0010-7824(16)30145-7/fulltext. Retrieved September 13, 2017.
- Curtis KM, Tepper NK, Jatlaoui TC, Berry-Bibee E, Horton LG, Zapata LB, et al. U.S. medical eligibility criteria for contraceptive use, 2016. MMWR Recomm Rep 2016;65(RR-3):1-103. Available at: https://www.cdc.gov/mmwr/volumes/65/rr/rr6503a1.htm?s_cid=rr6503a1_w. Retrieved September 13, 2017.
- Dahlke JD, Terpstra ER, Ramseyer AM, Busch JM, Rieg T, Magann EF. Postpartum insertion of levonorgestrel--intrauterine system at three time periods: a prospective randomized pilot study. Contraception 2011;84:244-8. Available at: http://www.contraceptionjournal.org/article/S0010-7824(11)00008-4/fulltext. Retrieved September 13, 2017.
- Dehlendorf C, Krajewski C, Borrero S. Contraceptive counseling: best practices to ensure quality communication and enable effective contraceptive use. Clin Obstet Gynecol. 2014 Dec;57(4):659-73

ACOG

CITATIONS

- Dehlendorf, Henderson JT, Vittinghoff E, Grumbach K, Levy K, Schmittdiel J, Lee J, Schillinger D, Steinauer J. Association of the quality of interpersonal care during family planning counseling with contraceptive use. American Journal of Obstetrics & Gynecology 2016: 215(1):78
- Gavin L, Pazol K, Ahrens K. Update: Providing Quality Family Planning Services — Recommendations from CDC and the U.S. Office of Population Affairs, 2017. MMWR Morb Mortal Wkly Rep 2017;66:1383–1385.
- Gray RH, Campbell OM, Zacur HA, Labbok MH, MacRae SL. Postpartum return of ovarian activity in nonbreastfeeding women monitored by urinary assays. J Clin Endocrinol Metab 1987;64:645-50. Available at: https://academic.oup.com/jcem/article-abstract/64/4/645/2653643/Postpartum-Return-of-Ovarian-Activity-in?redirectedFrom=fulltext. Retrieved September 26, 2017.
- Harper KD, Loper AC, Louison LM, Morse JE. Stage-based implementation of immediate postpartum long-acting reversible contraception using a reproductive justice framework AJOG Clinical Opinion 2020
- Hofler LG, Cordes S, Cwiak CA, Goedken P, Jamieson DJ, Kottke M. Implementing immediate postpartum long-acting reversible contraception programs. Obstetrics & Gynecology Vol. 129, No.1 January 2017.
- Hopkins K, Remington C, Eilers MA, Rivas SD, Wallace Huff C, Moore LD, Hampton RM, Ogburn T. Obtaining buy-in for immediate postpartum long-acting reversible contraception programs in Texas hospitals: A qualitative study. Contraception 2022;108:32-36.
- Levi EE, Stuart GS, Zerden ML, Garrett JM, Bryant AG. Intrauterine device placement during cesarean delivery and continued use 6 months postpartum: a randomized controlled trial. Obstet Gynecol 2015;126:5-11. Available at: http://journals.lww.com/greenjournal/fulltext/2015/07000/Intrauterine_Device_Placement_During_Cesarean.3.aspx. Retrieved September 13, 2017.

ACOG

CITATIONS

- Lopez LM, Bernholc A, Hubacher D, Stuart G, Van Vliet HA. Immediate postpartum insertion of intrauterine device for contraception. Cochrane Database of Systematic Reviews 2015, Issue 6. Art. No.: CD003036. DOI: 10.1002/14651858.CD003036.pub3. Available at: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003036.pub3/abstract. Retrieved October 3, 2017.
- Moniz MH, Bonawitz K, Wetmore MK, Dalton VK, Damschroder LJ, Forman JH, Peahl AF, Heisler M. Implementing immediate postpartum contraception: a comparative case study at 11 hospitals. Science Communications 2021;
- Moskowitz EH, Jennings B. Coerced contraception? Moral and policy challenges of long-acting birth control. 1996
- Sothornwit J, Werawatakul Y, Kaewrudee S, Lumbiganon P, Laopaiboon M. Immediate versus delayed postpartum insertion of contraceptive implant for contraception. Cochrane Database of Systematic Reviews 2017, Issue 4. Art. No.: CD011913. DOI: 10.1002/14651858.CD011913.pub2. Available at: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD011913.pub2/abstract. Retrieved October 2, 2017.
- Thurman AR, Janecek T. One-year follow-up of women with unfulfilled postpartum sterilization requests. Obstet Gynecol 2010;116:1071-7. Available at: http://journals.lww.com/greenjournal/fulltext/2010/11000/One_Year_Follow_up_of_Women_With_Unfulfilled.12.aspx. Retrieved September 21, 2017.
- Whitaker AK, Endres LK, Mistretta SQ, Gilliam ML. Postplacental insertion of the levonorgestrel intrauterine device after cesarean delivery vs. delayed insertion: a randomized controlled trial. Contraception 2014;89:534-9. Available at: http://www.contraceptionjournal.org/article/S0010-7824(13)00750-6/fulltext. Retrieved September 13, 2017.

ACOG

CITATIONS

- Whitaker AK, Chen BA, Borgatta L. Society of Family Planning guidelines: postplacental insertion of intrauterine devices. Contraception 2017; DOI: 10.1016/j.contraception.2017.09.014. Available at: http://www.contraceptionjournal.org/article/S0010-7824(17)30473-0/fulltext. Retrieved October 16, 2017.
- Woo I, Seifert S, Hendricks D, Jamshidi RM, Burke AE, Fox MC. Six-month and 1-year continuation rates following postpartum insertion of implants and intrauterine devices. Contraception 2015;92:532-5. Available at: http://www.contraceptionjournal.org/article/S0010-7824(15)00582-X/fulltext. Retrieved September 13, 2017
- World Health Organization. Medical eligibility criteria for contraceptive use. 5th ed. Geneva: WHO; 2015. Available at: http://www.who.int/reproductivehealth/publications/family_planning/MEC-5/en/. Retrieved September 27, 2017.